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EXAMINER	
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ART UNIT	PAPER NUMBER
1654	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-PAT-Email@rfem.com

Office Action Summary	Application No.	Applicant(s)	
	10/559,649	JEYASEELAN ET AL.	
	Examiner	Art Unit	
	SATYANARAYANA R. GUDIBANDE	1654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 April 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *41-78* is/are pending in the application.

4a) Of the above claim(s) *41-54 and 69-78* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *55-68* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/5/05,9/6/06,12/19/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of group II (claims 55-68) and election of SEQ ID NO: 3 a peptide species, election of reducing the serum cholesterol as the function of the peptide and election of oral administration as the method of administration in the reply filed on 4/21/08 and in a supplemental response on 4/25/08 is acknowledged. The traversal is on the ground(s) that the cited reference of Zhu, et al., even though discloses SEQ ID NO: 2 of the instant application, applicants argue that the disclosed peptide is a predicted sequence and not that of an isolated peptide.

Applicants further argue that, "Zhu et al. states in the left-hand column, paragraph 3.3, on page 754, that the peptide of 78 residues depicted in Figure l(b) based on the cysteine patterns found in the sequence has some similarities with some Na+ channel toxins. The possible presence of maximal B loop also suggests that the peptide may belong to a-toxins. These possible functions of the predicted sequence of Figure l(b) are only speculative. It is submitted that there is no clear indication of a credible and specific function for the putative peptide of 78 amino acids in Zhu et al. On the other hand, the peptide of the present invention having the amino acid sequence of SEQ ID NO:2, or a variant, derivative and/or fragment thereof, as clearly disclosed in the specification, has the function of HMGCoA reductase inhibitor, phosphomevalonate inhibitor, reducing the accumulation of cholesterol in the cholesterol biosynthesis pathway and/or reducing the level of serum cholesterol. The reference provides no disclosure or suggestion of the predicted amino acid sequence of Figure l(b) having such functions".

This is not found persuasive because as stated in the cited reference, Zhu, et al., have clearly indicated that "From a cDNA library prepared from venom glands of the Chinese scorpion *Buthus martensii* Karsch, clones encoding precursors of three unique cysteine-rich peptides named BmTXKS3, BmTXLP2 and BmAP1 have been isolated and sequenced. These precursors are composed of 54, 94 and 89 amino acids, respectively, containing a signal peptide in their N-termini. Sequence analysis shows that BmTXKS3 and BmTXLP2 are two novel members of a scorpion toxin family sharing cysteine-stabilized alpha-helical folds. BmAP1 possesses a distinctive cysteine framework, which is similar to some serine protease inhibitors and the segments of several extracellular proteins" (abstract). This clearly illustrates the fact that the peptides have been isolated and characterized

Further, Zhu, et al., have clearly indicated that they characterized three novel peptides BmTXKS3, BmTXLP2 and BmAP1 using molecular cloning techniques (page 750, column 1, paragraph 1). This clearly implies that the peptides have been isolated for characterization. Further, the cited reference of Zhu, et al., discloses that, "To date, more than two hundred of primary structures of toxins or toxin-like peptides have been determined by Edman degradation analysis and molecular cloning methods" (page 749, paragraph 1, Introduction). This further substantiates the fact that the peptides BmTXKS3, BmTXLP2 and BmAP1 were characterized using molecular cloning methods.

The reference of Zhu, et al., refers to the peptide sequences as predicted sequences because of the redundancy in the genetic code, meaning multiple three letter genetic codes in the genetic code table correspond to each naturally occurring amino acid as shown below.

Table of Standard Genetic Code

	T	C	A	G
T	TTT Phe (F) TTC " TTA Leu (L) TTG "	TCT Ser (S) TCC " TCA " TCG "	TAT Tyr (Y) TAC TAA **Ter** TAG **Ter**	TGT Cys (C) TGC TGA **Ter** TGG Trp (W)
C	CTT Leu (L) CTC " CTA " CTG "	CCT Pro (P) CCC " CCA " CCG "	CAT His (H) CAC " CAA Gln (Q) CAG "	CGT Arg (R) CGC " CGA " CGG "
A	ATT Ile (I) ATC " ATA " **ATG** Met (M)	ACT Thr (T) ACC " ACA " ACG "	AAT Asn (N) AAC " AAA Lys (K) AAG "	AGT Ser (S) AGC " AGA Arg (R) AGG "
G	GTT Val (V) GTC " GTA " GTG "	GCT Ala (A) GCC " GCA " GCG "	GAT Asp (D) GAC " GAA Glu (E) GAG "	GGT Gly (G) GGC " GGA " GGG "

Since the peptides have been isolated for characterization and BmTXLP2 corresponds to the SEQ ID NO: 2 of the instant invention, it is inherent that the peptide BmTXLP2 exhibits the desired function recited in the instant application.

Therefore, the requirement is still deemed proper and is therefore made FINAL.

Claims 44-78 are pending.

Claims 41-54 and 69-78 have been withdrawn from further consideration as being drawn to non-elected invention.

Claims 55-68 have been examined on the merit.

A search for the elected species SEQ ID NO: 3 indicated that it is not free of prior art. The art found has been applied in the rejection below.

Claim Objections

Claim 64-66 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The claim as recited do not further limit the scope of the invention as the claims are drawn to "an isolated peptide of unknown sequence" (not specified by a SEQ ID NO.). Mere recitation of molecular weight for the peptide with out structural features associated with the polypeptide in terms of SEQ ID NO., does not provide adequate support to the scope of the claim as recited.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 55-57 and 66 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims recite a limitation "a variant, derivative and/or a fragment thereof" of peptide of claim 55. It is unclear from the recitation of the claim the nature of "variant", the nature of "derivative" and the nature of "fragment" of the peptide of claim 55. If it is a variant of peptide of claim 55, the claim as recited and the specification as disclosed does not adequately support the claim because, it does not specifically define the nature of variant, whether it is addition, substitution or deletion of amino acids. And if the variant of the peptide corresponds to addition,

substitution or deletion of amino acids, neither the claims nor the specification discloses which amino acid in the peptide is being substitute or deleted or added to realize the variability. With respect to defining "variant", the instant specification has the following broad definition on page 18 and paragraph 1, "[I]n particular, variants of the peptide in SEQ ID NO:2, may be defined as those peptides that contain amino acid substitutions, wherein an amino acid can be replaced with another amino acid without altering the activity of the peptide. These amino acids may or may not be conserved across species and may or may not be essential to the activity inhibitory function of peptide". The specification does not clearly specifies which amino acids residues in the parent sequence are substituted.

With respect to derivatives the claims as recited and specification as disclosed does not provide any support to substantiate the invention in terms of the nature of modifications performed on the peptide to obtain the derivatized peptide.

With respect to "fragments", neither the claims as recited nor the specification as disclosed provide adequate support as to the size of the fragments claimed in the invention and position of the amino acids in the parent sequence corresponding to the fragments.

Hence, the claims are indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 55-59, 61-67 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In the instant invention, applicants claim an isolated peptide comprising the amino acid sequence of SEQ ID NO: 2 or a variant, a derivative and/or fragment thereof having the function of reducing the level of serum cholesterol.

Claims 55-58 and 66 recite that the isolated peptide comprises of amino acid sequence of SEQ ID NO: 2 or a variant, derivative and/or a fragment thereof. By reciting that the peptide comprises of SEQ ID NO: 2, applicants are claiming a polypeptide of unknown sequence and unknown length that comprises of SEQ ID NO: 2. In incorporating the limitation that the peptide comprises of amino acid sequence of SEQ ID NO: 2 or a variant, derivative and/or a fragment thereof, applicants are claiming a innumerable polypeptides of unknown sequence composition and unknown structural features. Because, the specification as disclosed does not provide adequate support to claims as recited commensurate with the scope of the claims.

The MPEP clearly states that the purpose of the written description is to ensure that the inventor had possession of invention as of the filing date of the application, of the subject matter later claimed by him. An applicant shows possession of the claimed invention by describing the claimed invention with all of its limitations using such descriptive means as words, structures, figures, diagrams, and formulas that fully set forth the claimed invention. Lockwood v. American Airlines, Inc., 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed. Cir.1997). The

MPEP lists factors that can be used to determine if sufficient evidence of possession has been furnished in the disclosure of the application. These include, "level of skill and knowledge in the art, partial structure, physical and/or chemical properties, functional characteristics alone or coupled with a known or disclosed correlation between structure and function, and the method of making the claimed invention. Disclosure of any combination of such identifying characteristics that distinguish the claimed invention from other materials and would lead one of skill in the art to the conclusion that the applicant was in possession of the claimed invention is sufficient" MPEP 2163.

Further, for a broad generic claim, the specification must provide adequate written description to identify the genus of the claim. In Regents of the University of California v. Eli Lilly & Co., the court stated: "A written description of an invention involving a chemical genus, like a description of a chemical species, 'requires a precise definition, such as by structure, formula, [or] chemical name,' of the claimed subject matter sufficient to distinguish it from other materials. Fiers, 984 F.2d at 1171, 25 USPQ2d at 1606; In re Smythe, 480 F.2d 1376, 1383, 178 USPQ 279, 284-85 (CCPA 1973) ("In other cases, particularly but not necessarily, chemical cases, where there is unpredictability in performance of certain species or subcombinations other than those specifically enumerated, one skilled in the art may be found not to have been placed in possession of a genus. . . ."). Regents of the University of California v. Eli Lilly & Co., 43 USPQ2d 1398.

The specification as disclosed provides a very broad definition for variant as, ""[I]n particular, variants of the peptide in SEQ ID NO:2, may be defined as those peptides that contain amino acid substitutions, wherein an amino acid can be replaced with another amino acid

without altering the activity of the peptide. These amino acids may or may not be conserved across species and may or may not be essential to the activity inhibitory function of peptide". The provided definition does not specify the number or location of the substitutions in the claimed peptide. The specification also does not provide specific examples of sequences that are representative of variants of SEQ ID NO: 2.

With respect to 'fragments' of SEQ ID NO: 2, the instant claim 56 recites 11 sequences that are fragments of SEQ ID NO: 2 and specification in Table 2 on page 35 discloses 9 peptides. However, neither the specification nor the claims as recited limits the size of the fragments claimed in the instant invention.

With respect to derivatives, the specification only provides a very generic definition such as "[I]n particular, the present: invention provides polypeptides or variants, derivatives and/or fragments thereof having the function of HMGCoA reductase inhibitors, phosphomevalonate inhibitors, reducing the accumulation of cholesterol in the cholesterol biosynthesis pathway and/or reducing the level of serum cholesterol". Thus the specification does not provide an adequate definition in terms of structural features associated with derivatives of SEQ ID NO: 2 encompassed by the claims.

However, the prior art reference of Zhu, et al., 2002, Comparative Biochemistry and Physiology, Part B 131, 749-756 discloses specific peptide sequences that they have characterized derived from molecular cloning techniques belonging to *Buthus martensii* Karsch.

The reference of Torres-Larios, 2000, Eur. J. Biochem., 267, 5023-5031 provides isolation and characterization of 'Hadruin', an antimicrobial peptide from the venom of scorpion.

The claim 64 recites an isolated peptide in general and identifies the peptide only by its function as the peptide having the function of HMGCoA reductase inhibitor, phosphomevalonate inhibitor, reducing the accumulation of cholesterol in the cholesterol biosynthesis pathway and/or reducing the level of serum cholesterol, and wherein the peptide has a molecular weight of 16803 Da, 16790 Da, 16791 Da or 17211 Da. By merely providing the molecular weight of the peptides as representative species does not provide adequate written description support to the claims as recited and it does not provide the information about the amino acid sequences representing the peptides. Moreover, the peptide sequence of SEQ ID NO: 2 is a 94 amino acid residue. If the average molecular weight of a naturally occurring amino acid is ~110d for calculating the molecular weight of the polypeptide, the molecular weight of the 94 amino acid residue would be ~10,890d. The molecular weight of 16803 Da, 16790 Da, 16791 Da or 17211 Da claimed for the instant poly peptides represents a ~40% higher molecular weight compared to SEQ ID NO: 2. The other peptides recited in claims 56 and 57 are shorter than SEQ ID NO: 2. It is unclear from the above analysis the true composition of the polypeptide claimed in the instant invention given the fact that there is a ~40% discrepancy in the actual molecular weight of SEQ ID NO: 2 and the molecular weights claimed for the peptides.

The MPEP further states that if a biomolecule is described only by a functional characteristic, without any disclosed correlation between function and structure of the sequence, it is "not sufficient characteristic for written description purposes, even when accompanied by a method of obtaining the claimed sequence." MPEP 2163. The MPEP does state that for generic claim the genus can be adequately described if the disclosure presents a sufficient number of representative species that encompass the genus. MPEP 2163. If the genus has a substantial

variance, the disclosure must describe a sufficient variety of species to reflect the variation within that genus. See MPEP 2163. Although, the MPEP does not define what constitute a sufficient number of representatives, the Courts have indicated what do not constitute a representative number species to adequately describe a broad generic. In Gostelli, the Court determined that the disclosure of two chemical compounds within a subgenus did not describe that subgenus. In re Gostelli, 872 F.2d at 1012, 10 USPQ2d at 1618.

Thus, the claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim Rejections - 35 USC § 102

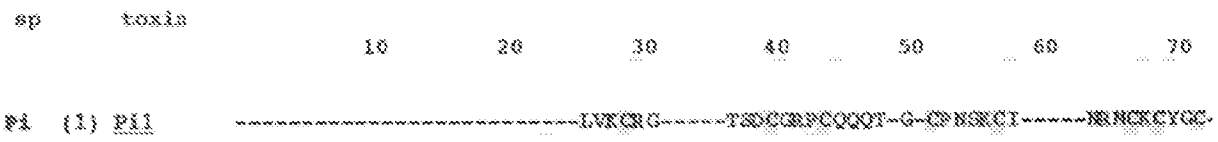
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 55-59 are rejected under 35 U.S.C. 102(b) as being anticipated by Possani, et al., 2000, biochimie, 82, 861-868.

In the instant invention, applicants claim an isolated peptide comprising the amino acid sequence of SEQ ID NO: 2 or a variant, a derivative and/or fragment thereof having the function of reducing the level of serum cholesterol.

The reference of Possini discloses the following peptide toxin PiL (Fig. 1, page 863):



The PiL peptide toxin comprises the tripeptide sequence –CQQ- between the amino acid residues 40 and 50 that corresponds amino acid residues 37-39, a 'fragment' of the elected species SEQ ID NO: 3. Since the reference discloses the peptide fragment that corresponds to the instant peptide SEQ ID NO: 3, it is inherent that the peptide exhibit the function of reducing the level of serum cholesterol. The reference also states that the peptides are directly isolated or deduced from nucleotide sequences (page 861, column 2, Material and Methods section). This reads on claims 55-57. The reference also discloses the peptide is isolated from scorpion venom and hence reads on claims 58 and 59.

Hence, the reference of Possani anticipates instant invention.

Claims 55-60, 63 are rejected under 35 U.S.C. 102(b) as being anticipated by Zhu, et al., 2002, Comparative Biochemistry and Physiology, Part B 131, 749-756.

In the instant invention, applicants claim an isolated peptide comprising the amino acid sequence of SEQ ID NO: 2 or a variant, a derivative and/or fragment thereof having the function of reducing the level of serum cholesterol.

The reference of Zhu discloses the elected species of the peptide SEQ ID NO: 3 in figure 1, panel B, corresponding to amino acid residues from 23-94. Zhu discloses that the peptide from the cDNA library prepared from venom glands of Buthus martensii Karsch scorpions (abstract) using molecular cloning techniques (page 750, column 1, paragraph 1). This reads on instant

claims 55-60 and 63. Since the cited reference of Zhu discloses the polypeptide of SEQ ID NO: 3, it is inherent that the peptide exhibits the function of reducing the level of serum cholesterol.

Thus the reference of Zhu anticipates the instant invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 61 and 66-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhu, et al., 2002, Comparative Biochemistry and Physiology, Part B 131, 749-756 as applied to claims 55-60, 63 above, and further in view of Torres-Larios, 2000, Eur. J. Biochem., 267, 5023-5031.

In the instant invention, applicants claim an isolated peptide comprising the amino acid sequence of SEQ ID NO: 2 or a variant, a derivative and/or fragment thereof having the function of reducing the level of serum cholesterol.

The reference of Zhu discloses the elected species of the peptide SEQ ID NO: 3 in figure 1, panel B, corresponding to amino acid residues from 23-94. Zhu discloses that the peptide from the cDNA library prepared from venom glands of *Buthus martensii* Karsch scorpions (abstract) using molecular cloning techniques (page 750, column 1, paragraph 1). This reads on instant claims 55-60 and 63. Since the cited reference of Zhu discloses the polypeptide of SEQ ID NO: 3, it is inherent that the peptide exhibits the function of reducing the level of serum cholesterol.

The reference of Zhu does not teach the method steps used in the isolation of the peptide from the scorpion venom.

The reference of Torres-Larios teaches the method of isolating the peptides from scorpion venom particularly 'Hadruin' an antimicrobial peptide from the venom of scorpion *Hadrurus aztecus* (page 5023, column 2, 'experimental section', and page 5024, column 1, 'purification of the peptide section'). The method described includes extraction of the venom and isolation of the peptide by gel filtration and HPLC column chromatography techniques. This reads on the instant claim 61. The reference also teaches synthesis of the polypeptide by chemical synthesis (page 5024, column 1, paragraph 4). The reference also teaches that the peptides were dissolved in 50 mM phosphate buffer, pH 8.0 for enzyme digestion studies (page 5024, column 1, paragraph 2). Since the peptide was dissolved in the phosphate buffer, it meets the limitations of instant claims 66 and 67. Since the peptide is present in the pharmaceutically acceptable composition, it is suitable for oral administration.

It would have been obvious to one skilled in the art to combine the teachings of Zhu and Torres-Larios to arrive at the instant invention. Zhu disclosed the source and the peptide sequence of the instant invention, i.e., SEQ ID NO: 3. Torres-Larios taught how a peptide can be

isolated and purified from Scorpion venom for pharmaceutical compositions as described above. One would have been motivated to do so given the fact that Torres-Larios provided a stepwise method of extracting the peptide from scorpion venom for pharmaceutical applications. There would have been a reasonable expectation given the knowledge that Torres-Larios successfully purified the peptide from the scorpion venom (from species *Hadrurus aztecus*) and the same could be applied to the instant peptide from the species *Buthus martensii* Karsch.

A reference is good not only for what it teaches by direct anticipation but also for what one of ordinary skill in the art might reasonably infer from the teachings. (*In re Opprecht* 12 USPQ 2d 1235, 1236 (Fed Cir. 1989); *In re Bode* 193 USPQ 12 (CCPA) 1976). In light of the forgoing discussion, the Examiner concludes that the subject matter defined by the instant claims would have been obvious within the meaning of 35 USC 103(a). From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was prima facie obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Satyanarayana R. Gudibande whose telephone number is 571-272-8146. The examiner can normally be reached on M-F 8-4.30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cecilia Tsang can be reached on 571-272-0562. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Satyanarayana R Gudibande/
Examiner, Art Unit 1654

/Andrew D Kosar/
Primary Examiner, Art Unit 1654